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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,007	11/20/2003	Alan Michael Jaffee	7237	8750
29602	7590	03/22/2007		
JOHNS MANVILLE 10100 WEST UTE AVENUE LITTLETON, CO 80127			EXAMINER MATZEK, MATTHEW D	
			ART UNIT	PAPER NUMBER
			1771	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/718,007	<b>Applicant(s)</b> JAFEE ET AL.	
	<b>Examiner</b> Matthew D. Matzek	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 51-64, 71-84, 91-94 and 99 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 51-64, 71-84, 91-94 and 99 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

1. The amendment dated 1/9/2007 has been fully considered and entered into the Record. Claims 65-70 and 85-90 have been canceled. Claims 51-64, 71-84, 91-94 and 99 are pending. The previously applied 112 2<sup>nd</sup> paragraph rejections have been withdrawn due to either amendment or cancellation. The previously applied prior art rejection of CHENOWETH et al. (US 4,888,235) in view of ARKENS et al. (US 5,661,213) has been withdrawn as CHENOWETH et al. fail to teach the instantly claimed glass fiber diameter.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 51-64, 71-84, 91-94 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over GEEL (US 2003/0109190 A1) in view of ARKENS et al. (US 5,661,213), and further evidenced by CHENOWETH et al. (US 4,888,235).

a. GEEL discloses a nonwoven reinforcing mat that includes a base web having about 10 to about 80 percent by weight glass fibers, about 20 to about 90 percent by weight polyethylene terephthalate fibers and binders. (Abstract) The reference uses glass and polyethylene terephthalate (polyester) fibers as the polymer fibers with diameter of from about 6 to about 16 microns and a length of from about 4 to about 25 mm [0.15-0.98 inches]. (Refer to [0008]-[0009]) Geel teaches that the polyethylene terephthalate fibers utilized in their invention have a melting point above about 250°C and maintain their fiber character to at least a temperature of 220°C. The reference also teaches that aramid or any other synthetic fiber meeting such requirement may be

utilized. [0019] The reference teaches the use of binders that may be self-crosslinking, non-crosslinking or crosslinked by addition of a suitable agent. [0021]. The total binder is in an amount of about 20 to about 50 percent of the total weight of the base web fibers and binder. [0017]

b. While the mat of GEEL provides the claimed fibers, the reference fails to use a binder that is at least partially cured and comprises before drying and curing a homopolymer or a copolymer of polyacrylic acid and a polyol.

c. ARKENS et al. relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) Arkens et al. teaches the use of their binder for heat-resistant nonwoven fabrics such as, for example, nonwovens that contain heat-resistant fibers such as for example, aramid fibers, certain polyester fibers, glass fibers, among others. By "heat-resistant fibers" is meant (in Arkens et al.), fibers which are substantially unaffected by exposure to temperatures above 125°C. (Refer to Col. 8, lines 23-31) The reference teaches that the polyacid may be a compound with a molecular weight less than about 1000 bearing at least two carboxylic acid groups and teaches that it may be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others). (Refer to Col. 3, lines 45 through Col. 4, lines 1-5) The reference further teaches that the polyol may be triethanolamine (Col. 6, lines 1-6) The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants,

wetting agents (*equated to hydrophilic material*), among other components. (Refer to Col. 6, lines 52-57) The reference teaches a nonwoven substrate made from a fiberglass fiber at 1.25 inches in length with a binder add-on of 28%. (Example 3) at a basis weight of 1.75 pounds per 100 sq. feet.

d. Since both references are directed to heat-resistant materials and nonwoven mats comprising such heat-resistant fibers (aramid, polyester, glass fibers, etc.), the purpose disclosed by ARKENS et al. would have been recognized in the pertinent art of GEEL.

e. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of GEEL and provide them with the binder composition of ARKENS et al. with the motivation of producing a heat-resistant nonwovens without formaldehyde as disclosed by ARKENS et al. (Col. 1, lines 11-55).

f. Although the prior art of GEEL in combination with ARKENS does not explicitly teach the claimed ratio of wet tensile strength to dry tensile strength and the claimed Taber Stiffness it is reasonable to presume that this property is inherent to a mat from the combination of GEEL and ARKENS. Support for said presumption is found in the use of like materials (i.e. nonwoven mat that includes glass fibers and polyester fibers, with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of wet tensile strength/dry tensile strength and the Taber Stiffness would obviously have been present one the product form the combination of GEEL and ARKENS is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection made above under 35 USC

102. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80

g. With regards to the claimed property of passing the NFPA Method #701 Flammability Test, it is the Examiner's position that such property will also be inherent to the structure from the combination of Geel and Arkens for the same reasons stated in the paragraph above. Applicant's ranges for the concentration of polyester fibers are broad and encompass typical values that are found in the prior art as evidenced by CHENOWETH et al. (Refer to Abstract and Table I). Since each of the elements are recognized as result effective variables in this field of endeavor and it has been held that discovering optimum values would have been or result effective variables involves only routine experimentation.

h. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the combined article of GEEL/ARKENS et al./CHENOWETH et al. with the instantly claimed basis weights, binder percentage and fiber composition, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

i. The new limitation of "the web being bound together by a binder that is at least partially cured and consists essentially of, before drying and curing, a homopolymer or a copolymer of polyacrylic acid and a polyol" is met by the composition of ARKENS et al. and for the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel

characteristics actually are, “consisting essentially of” will be construed as equivalent to “comprising.” See, e.g., *PPG*, 156 F.3d at 1355, 48 USPQ2d at 1355.

### ***Double Patenting***

3. Claims 51-69, 71-94 and 99 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 62-82 and 85-89 and 92-996 of copending Application No. 10/717,802 in view of GEEL (US 2003/0109190 A1). The claims of the copending application fail to teach the inclusion of man-made polymer fibers as a blend with glass fibers. GEEL discloses a nonwoven reinforcing mat that includes a base web having about 10 to about 80 percent by weight glass fibers, about 20 to about 90 percent by weight polyethylene terephthalate fibers and binders. (Abstract) The reference uses polyethylene terephthalate (polyester) fibers as the polymer fibers with diameter of from about 6 to about 16 microns and a length of from about 4 to about 25 mm [*0.15-0.98 inches*]. (Refer to [0008]-[0009]) It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the polymer fibers with the motivation of improving the tear strength, improved resistance against moisture and rot as disclosed by GEEL. [0015]

This is a provisional obviousness-type double patenting rejection.

### ***Response to Arguments***

4. Applicant's arguments filed 1/9/2007 have been fully considered but they are not persuasive.

5. Applicant argues that GEEL teaches a nonwoven mat for use a completely different application having completely different requirements than the application the presently claimed mat is designed for. Applicant continues by arguing that GEEL makes no suggestion that his

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mat has the properties needed for use in ceiling panels as described in the PGPub 2002/0020142. It is noted that the present invention as claimed is directed to a fibrous nonwoven mat not to a ceiling tile. Applicants need to demonstrate how the nonwoven mat claimed is different from the structure provided by the prior art of record. It is further noted that reciting the physical and chemical characteristics of the claimed product will not suffice where it is not certain that a sufficient number of characteristics have been recited that the claim reads only on the particular compound which the applicant has invented. *Ex parte Siddiqui* 156 USPQ 426 ; *Ex parte Davission et al.* 133 USPQ 400 ; *Ex parte Fox* 128 USPQ 157. It is not clear how the claimed physical properties are achieved as to make the structure different from that of the prior art (i.e. is there a particular process that is responsible for the claimed properties that is not used by the prior art and would show that the prior art cannot inherently have these properties?).

6. Applicant argues that GEEL alleges broad ranges of ratios of glass fibers to polymer fibers and binder content, but does not teach or reasonably suggest the instantly claimed percentages. Applicant points out that GEEL's examples use a minority of glass fibers, a majority of polymer fibers and more than 40 weight percent of binder comprised of polyvinyl alcohol and a secondary binder. Examiner has addressed the amended composition limitations *supra* and the applied reference is not limited to its examples, rather it should be considered in its entirety.

7. Applicant argues that GEEL teaches a mat having two binders and that Examiner has failed to state, which binder he believes it would have been obvious to have replaced with the ARKENS et al. binder. Examiner acknowledges that GEEL teaches the use of two binders for use in the applied article, however Examiner intends to replace the binder system of GEEL with

that of ARKENS et al., which has been shown to bind glass fibers together without the formaldehyde resin of GEEL.

8. Applicant argues that Examiner has not addressed the use of polyvinyl alcohol in the GEEL reference and its impact in the combined article of GEEL and ARKENS et al. As addressed in the previous paragraph, Examiner intends on replacing the adhesive system of GEEL with that ARKENS et al. This binder replacement removes the polyvinyl alcohol from the final combined article.

9. Applicant argues that the Jaffee Declaration shows that most, if not all of the mats taught by GEEL would not have had the properties recited in the claimed invention. The Jaffee Declaration only demonstrates a few embodiments that do not accurately portray the article of GEEL. Trial I presents the only embodiment that actually utilizes the binder system set forth in GEEL and serves only as one data point from all of the possible combinations of the ranges set forth in the applied reference. Trials II and III, which do not possess the instantly claimed Taber Stiffness use the instantly claimed binder system. Therefore, the Trials II and III only show that the binder set forth in the instant invention does not necessarily create an article with the instantly claimed Taber Stiffness in low basis weight articles (i.e. the claimed basis weights are more than twice those of Trials II and III).

10. Applicant argues that Examiner has failed to provide any evidence from the prior art to support the allegation of inherency. Examiner has relied upon the combined article of GEEL to teach the nonwoven composition and fiber size and length and ARKENS to set forth the claimed adhesive system. This combined article is very similar in composition and structure, which serves as Examiner's support for the allegation of inherency. Applicant has failed to

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demonstrate how the claimed Taber Stiffness is actually an unexpected result. Applicant has only provided three points of comparison in the Jaffee Declaration and has failed to demonstrate how the claimed property is not just the result of an optimization of the nonwoven mat's composition.

11. Applicant argues that a broad range does not make obvious a narrower range if the narrower range produces much better results or properties than taught by the reference for the broad range. Applicant has failed to demonstrate the possession of "much better results or properties". Based upon the evidence set forth in the Jaffee Declaration, it appears that the instantly claimed Taber Stiffness is the result of the optimization ~~of the optimization~~ of the nonwoven mat's composition to arrive at a desired result rather than an unexpected result.

12. Applicant argues the Examiner has used improper hindsight to combine the articles of GEEL and ARKENS et al. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The motivation to combine the articles is set forth in ARKENS et al.

13. Applicant argues that there is a difference between the claimed and applied glass fibers, but has failed to point out the difference. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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14. Applicant argues that GEEL uses between about 20 and about 50 weight percent binder in the applied nonwoven article. This anticipates the claimed binder percentage. The argument pertaining to GEEL's use of PVA and a two-binder system has been addressed *supra*.

Applicant argues that the instantly claimed invention does not require the presence of fine glass fibers to meet the requirements for the dividers in the ceiling tile and that is a further unexpected result of the combinations claimed. As Examiner has pointed out in the rejections of this Office Action, the applied art meets the structural limitations of the claimed glass fibers and as such may be used in the same manner as the instantly claimed article.

15. Applicant continues by stating that the claimed properties are required in the mats to be used as ceiling tiles and that they have shown how difficult it was to invent the mats having the necessary properties for this new type of ceiling tile and that those properties were not known in prior art mats. The instant claims do not recite that Applicant's invention may only be used as a ceiling tile. Rather, the claims only recite that it is a nonwoven mat. The art used in the rejections of this Office Action are also nonwoven mats. The argument that the prior art mats did not possess the instantly claimed properties is not persuasive, because there is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of the invention, but only that the subject matter is in fact inherent in the prior art reference.

*Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1371, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003).

16. Applicant argues Examiner has provided no evidentiary basis for urging that the claimed properties are inherent to the mats of GEEL. Examiner has asserted that the combined article of

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GEEL/ARKENS et al./CHENOWETH et al. possess the claimed properties, and GEEL is a nonwoven mat comprising glass and polyester fibers of the claimed size and length.

17. Applicant argues that CHENOWETH et al. teach away from the instant invention by having an optimal mat composition that is outside of the instantly claimed composition. The reference is not limited to its “optimal” values and should be taken as a whole. Table I provides for the instantly claimed mat composition. Applicant argues that the type of glass fibers taught is different than those of the instantly claimed invention and lengths and deniers have broader ranges than those of Applicant. Examiner has relied the fiber teachings of GEEL not CHENOWETH et al.

18. Applicant argues that CHENOWETH et al. fail to teach or suggest using chopped glass fibers having an average diameter of about 13 to 17.5 microns but instead teaches rotary spun glass fibers having diameters of 3-10 microns.

19. Applicant argues that Jaffee Declaration shows that mats without the polymer fibers will not meet the requirements of the folding mats in the ceiling tile in US 2002/0020142 and therefore are not merely an obvious modification. Applicant is reminded that no ceiling tile has been claimed. Only a nonwoven mat has been recited in the instant claims. Applicant continues by stating that the article of the 10/717,802 application cannot meet the requirements for the vertical, folding panels in the ceiling tile of US 2002/0020142. It is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

20. Applicant argues that the invention of 10/717,802 does not require the use of polymer fibers as set forth in the instantly claimed invention. Examiner has relied upon GEEL for teaching the use of polymer fibers.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Matzek whose telephone number is (571) 272-2423. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700